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### THREE NEW ASTERACEAE FROM GUATEMALA

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The three new Asteraceae here described are based upon specimens collected by Dr. Julian A. Steyermark in Guatemala and sent me for examination by Mr. Paul C. Standley of the Chicago Museum of Natural History (formerly Field Museum).

*Alomia cordata* Blake, sp. nov.

“Frutex;” caulis dense et sordide patenti-pilosulus apice trichotomus; folia opposita, petiolo nudo dense patenti-pilosulo 2.3-3.5 cm. longo, lamina ovata acuminata basi cordata infra apicem integram crenato-serrata ca. 8 cm. longa 6 cm. lata supra puberula subtus dense cinereo-pilosula 3-nervia et modice reticulata; capitula ca. 25-27-flora ca. 7 mm. alta brevissime pedicellata in glomerulos pedunculatos 1-1.5 cm. diam. apice caulis et ramorum subterminalium saepe ternatos aggregata; involucri anguste campanulati 5-6 mm. alti pphllaria linearia acuminata substraminea aetate rigida 3-vittata dorso pilosula ca. 0.6-0.9 mm. lata; receptaculum paleaceum, paleis anguste linearibus rigidis acuminatis; achenia glabra epapposa.

“Shrub 5-8 ft. tall;” stem uniformly leafy to the inflorescence, about 2.5 mm. thick above, internodes 5-6.5 cm. long; longer hairs of stem and petioles several-celled, acuminate, sordid or in youth purplish, 1 mm. long or less, mixed with much shorter inconspicuous gland-tipped hairs; leaves with inconspicuous pale sessile glands beneath between the hairs, the blades of the upper ones 7.5-9 cm. long, 5-7 cm. wide; peduncles 0.8-2.5 cm. long, the pedicels 1.5 mm. long or less; bracts subtending the glomerules ovate, their blades 1 cm. long or less; heads (moistened) campanulate, ca. 7 mm. high, 4.5 mm. thick; phyllaries rather shortly acuminate, rather densely pilosulous, not glandular, the principal ones subequal, a few shorter and narrower outer ones present; pales of receptacle slightly sessile-glandular on back, otherwise glabrous, about 5.3 mm. long, 0.3-0.4 mm. wide; corollas (color ?) sparsely stipitate-glandular, 3.5 mm. long (tube ca. 1.3 mm., throat slightly amplate above, 1.8 mm., teeth 0.4 mm. long); achenes slender, blackish, glabrous, 5-ribbed, 1.6-1.8 mm. long, crowned with a thickish whitish collar which is definitely the detergent base of the corolla and not a pappus.

GUATEMALA: Dry southwest-facing rocky slopes and bluffs of metamorphosed dolomitic rock, Loma El Picacho, above Santa Rosalia, Sierra de Las Minas, Dept. Zacapa, alt. 1200-1600 m., 15 Jan. 1942, J. A. Steyermark 42712 (type no. 1,142, 283, Herb. Field Mus.; photog. and fragm., Nat. Arb. Herb.).

This species, represented by a specimen with over-mature heads, comes in the first group of the subgenus *Eualomia* in Robinson's revision (1913), and is at once distinguished in that group by its broadly ovate-cordate leaves, which are densely pubescent beneath. In appearance it is rather similar to *Ageratum rugosum* Coult., a species of Guatemala and extreme southern Mexico (Chiapas), but in that the heads, although clustered, are not glomerate in the manner of *Alomia cordata*, the receptacle is naked, and the achenes bear a pappus.

The stem of the herbarium specimen shows no trace of woodiness, and the plant may very well be merely suffrutescent rather than a true shrub.

***Oyedaea steyermarkii* Blake, sp. nov.**

Frutex ramosus usque ad apicem foliosus; caulis (vel ramus) dense strigillosus; folia opposita oblongo-elliptica ad ovalia 10.5-12.5 cm. longa 3.3-6 cm. lata acuminata basi cuneata crenato-serrulata breviter petiolata penninervia vel nervis inferioribus validioribus ca. 7-plinervia rigide pergamentacea supra aequabiliter sed non dense strigillosa pilis aetate basi leprosis infra similiter sed densius strigillosa pilis paullo laxioribus, venis et venulis subtus prominulis; capitula radiata pauca mediocria per 3-6 apice ramorum et in axillis superioribus cymoso-paniculata, foliis multo breviora; involucri ca. 3-seriati vix gradati 6 mm. alti omnino appressi phyllaria extima ca. 5 oblonga v. oblongo-ovata acutiuscula inconspicue calloso-apiculata dense strigillosa indurata vel basi lateraliter subscarioso-marginata, interiora oblonga v. oblongo-ovalia tenuiora straminea margine subscariosa ad apicem minute hispidulo-ciliolata medio dorsi strigillosa; radii neutrales vix bene visi; paleae acuminatae carinatae; achenia radii trigona angustissime vel vix 3-alata, pappi paleis late lanceolatis 2-3 basi connatis, squamellis non distinctis; achenia disci compressa paene glabra angustissime vel vix 2-alata, pappi paleis 2 lanceolatis cum squamellis ca. 12 multo brevioribus basi valde connatis conjunctis.

"Shrub 8-10 ft. tall;" stem (or branch) subterete, striatulate, light brownish; petioles naked, somewhat broadened at base, densely strigillose, 3-5 mm. long; leaf blades dark green, above somewhat shining and in age conspicuously maculate with the flattened white bases of the hairs, crenate-serrulate nearly throughout (teeth small, obtusish, callous-tipped, about 0.5 mm. high, mostly 5-8 mm. apart), the veins in age impressed above, with the veinlets prominulous-reticulate beneath; peduncles about 4-10 mm. long, the pedicels 5-18 mm. long; outer phyllaries about 6 mm. long, 2 mm. wide, the inner about as long or slightly longer, 2.5-3 mm. wide; disk (in ripe fruit) hemispheric, 1 cm. high, 1-1.3 cm. thick; rays (immature) neutral, 3-toothed, the lamina ca. 5 mm. long; disk corollas (poorly preserved) ca. 4.2 mm. long, the teeth hispidulous; pales abruptly acuminate, minutely hispidulous on keel and margin above, about 8 mm. long; ray achenes normally formed but with abortive embryo, sharply trigonous, 1-nerved on each face, minutely hispidulous on the angles, otherwise essentially glabrous, about 3.8 mm. long, the 3 triangular awns acuminate, trigonous, sulcate inside, minutely hispidulous on margin, connate at base except on outer side of achene, 2.7-3.2 mm. long, persistent; disk achenes obovate-oblong, 3.8-4 mm. long, 1.5-1.8 mm. wide, shining brown, sparsely and minutely strigillose, com-

pressed, slightly thickened, acute-edged, 3-nerved on the sides (the middle nerve stronger and somewhat prominent), somewhat impressed at apex at the base of the pappus, the 2 awns of pappus unequal, 2.5-3.2 mm. long, triangular, acuminate, trigonous, sulcate within, minutely hispidulous on margin, decurrent on the narrowed apex of achene as narrow wings continuous with the still narrower or obsolete wings of the achene, firmly connate at base with the squamellae, the latter linear-oblong, obtuse or acutish, minutely hispidulous-ciliolate on their free apices, about 0.6-1 mm. long, the whole persistent.

GUATEMALA: On top of knife-edge limestone ridge, Cerro Chinajá, between Finca Yalpemech and Chinajá, above source of Río San Diego, Dept. Alta Verapaz, alt. 150-700 m., 1-2 April 1942, *J. A. Steyermark* 45686 (type No. 1,148,166, Herb. Field Mus.; photog. and dupl., Nat. Arb. Herb.).

This species is ascribed to *Oyedaea* with some hesitation. The 3 sheets examined are in very mature fruit, and I was able to find only a single, not fully developed ray corolla and a few over-mature disk corollas. The lack of a differentiated herbaceous tip to the phyllaries would place the species, if really an *Oyedaea*, next to the Mexican *O. ovalifolia* A. Gray, which has triplinerved leaves and a very loose and open paniculate inflorescence, as well as many differences in details.

The receptacular pales show a strong tendency to leave the receptacle in an entangled mass, bearing the achenes among them, and each splitting up the back, but I cannot help suspecting that this is due to some pathological condition of the head. In any case, further material in less mature condition is to be desired.

***Verbesina eperetma* Blake, sp. nov.**

Herba virgata foliosa 3-metralis, inflorescentia parce pubescente excepta glaberrima, infra inflorescentiam simplex; caulis non alatus, internodiis superioribus 1-2 cm. longis; folia alterna lineari-lanceolata ca. 15 cm. longa 1.7 cm. lata longe acuminata basi rotundata brevissime petiolata subintegra penninervia, capitula majuscula pedunculata subcorymbosa ca. 13 pro caule in ramis 1-5-cephalis; involucri ca. 4-seriati gradati 1-1.2 cm. alti phyllaria plerumque oblongo-ovata appendice herbacea lineari-lanceolata patente vel reflexa 7-10 mm. longa praedita; achenia angustissime alata, aristis 1-2 fragilibus.

"Herb 8-10 ft. tall;" upper part of stem subterete, 4 mm. thick, purplish becoming yellow-brown, glabrous, pithy, wingless but marked by decurrent lines from the leaf-bases; leaves erectish; petioles broad, naked, glabrous, 2 mm. long; blades 13.5-15.5 cm. long, 1.6-1.8 mm. wide, acuminate and more or less falcate, obscurely callous-serrulate (the very blunt teeth mostly concealed by the narrowly revolute margin, only about 0.3 mm. high and 1.5-3 mm. apart), dark green above, lighter green beneath, glabrous on both sides or obscurely and microscopically pubescent beneath, not lepidote, featherveined (principal lateral veins 40 pairs or more, prominulous, the veinlets reticulate but not raised, translucent, the costa whitish and prominent beneath); heads 1 at tip of stem (on a short few-bracted peduncle 2 cm. long) and by 1's to 5's on erect branches 4.5-13.5 cm. long arising from the uppermost leaves, the branches purplish, thinly and unevenly appressed-pubescent, bearing leaves 3.5-6 cm. long, the peduncles somewhat thickened above, striate,

thinly appressed-pubescent, the terminal one 3-22 mm. long, the lateral 1.5-4 cm., bearing 1 or few linear bracts 12 mm. long or less; involucre (excluding the loose leafy tips) ca. 1-1.2 cm. high, broadly campanulate, the outermost phyllaries narrowly lance-linear, with very short body (1.1-1.8 mm. wide) and wide-spreading herbaceous tip, the others with ovate or oblong-ovate body 3-4 mm. wide, olive-brown, pale-margined, more or less short-ciliate, dorsally essentially glabrous, firm and somewhat thickened, with herbaceous appendage (in all except the acuminate inmost), this glabrous, 1.5-2 mm. wide, acute; disk (flowers fallen) 1-1.5 cm. high, 1.5-2 cm. thick (as pressed); disk corollas (over-mature) ca. 7.5 long (tube 2 mm., glandular-puberulous, throat 4 mm., teeth 1.5 mm. long); pales acute or acuminate, straightish or slightly recurving at apex, firm, olivaceous above, finely stipitate-glandular along the very narrow keel, about 12 mm. long; achenes oblong-obovate, 4.8-7 mm. long, ca. 2.2 mm. wide, with blackish finely hispidulous body and 2 very narrow subequal hispidulous-ciliate whitish wings (ca. 0.3 mm. wide); awns 2, or usually 1 in the outer flowers, somewhat unequal, finely hispidulous, 4-5.5 mm. long.

GUATEMALA: Sierra de Las Minas, trail between Santa Rosalía de Mármol and Vegas, Dept. Zacapa, 19 Jan. 1942, *J. A. Steyermark* 42933 (type No. 1,148,693, Herb. Field Mus.; photog. and fragm., Nat. Arb. Herb.).

The heads of the type are unfortunately so mature that I have not been able to establish the presence or absence of rays. Although the ray achenes in some species of the genus are readily distinguishable from those of the disk, being triangular with a single awn on the inner angle, this is not the case in all, so the absence of differentiated outer achenes in this species is no indication that the heads are discoid (the outer achenes with only a single awn, mentioned in the description above, bear a tubular disk flower when any corolla is present). The relationship of *V. eperetma* is pretty certainly with such species as *V. virgata* Cav., of the section Saubinetia, and it may be inserted for the present next to that species, although the absence of cauline wings would place it farther along in Robinson and Greenman's synopsis (1899). The comparatively large heads, in combination with the narrow glabrous leaves, are distinctive. The specific name, from the Greek ἐπὶ ῥέετρος, *provided with oars*, refers to the spreading herbaceous appendages of the phyllaries.